

Claims:

1. A process for the production of a flexible polyurethane foam by reaction of a mixture of

5 (a) at least one liquid organic polyisocyanate with

(b) a polyol composition comprising

(b1) from 0 to 98 percent by weight of a polyol compound having a functionality of 2 to 8 and a hydroxyl number of from 15 to 200 and

10 (b2) from 2 to 100 by weight of a polyol compound having a functionality of 2 to 8, a hydroxyl number of from 15 to 200 and containing at least one tertiary amine group providing autocatalytic function,

15 wherein the weight percent is based on the total amount of polyol composition (b)

(c) in the presence of at least one gelling amine catalyst, having a cyclic structure and being not more than 80 percent ,on a molar basis, acid blocked,

(d) in the presence of water as a blowing agent; and

20 (e) optionally additives, catalysts or auxiliary agents known per se for the production of polyurethane foams.

2. The process of Claim 1 wherein polyol (b2) is an alkylene oxide adduct of an initiator having N-alkyl, N,N-dialkyl amino groups, or a mixture thereof, wherein the alkyl
25 group is a C1 to C3 alkyl group.

3. The process of Claim 2 wherein polyol (b2) is an alkylene oxide adduct of an initiator having N-metyhl, N,N-dimethyl amino groups, or a mixture thereof.
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4. The process of Claim 1 wherein polyol (b2) is a hydroxyl terminated polyol capped with N,N-dialkyl-glcidylamine.

5. The process of Claim 1 wherein the gelling amine catalyst (c) is triethylenediamine; 3-hydroxymethyl quinuclidine, 3-quinuclidinol; imidazole; 1,2-dimethylimidazole; 1-methylimidazole; 2-methyl-2-imidazolone; 1,5-diazabicyclo(4.3.0)non-ene; 1,8-diazabicyclo(5.4.0)undec-7-ene; N,N'-dimethylpiperazine; 2,4-diamino-6-methyl-1,3,5-triazine; dimethyl benzylamine, N-methyl pyrrolidone, N-vinyl pyrrolidone, N-aminopropyl-pyrrolidine, N-methyl morpholine, N-ethyl morpholine, dimethylcyclohexylamine or a mixture thereof.

6. The process of Claim 5 wherein the gelling amine catalyst (c) is triethylenediamine, 1,2-dimethylimidazole, 1,8-diazabicyclo (5.4.0) undec-7-ene, 3-hydroxymethylquinuclidine.

7. The process of Claim 1 wherein the gelling amine catalyst is partially blocked with an organic acid, an amino-acid, or non-organic acid.

8. The process of Claim 7 wherein the gelling amine catalyst is partially blocked with an organic acid containing a carboxylic acid.

9. The process of Claim 8 where the organic acid further contains one or more hydroxyl groups.

10. The process of Claim 9 wherein the organic acid is salicyclic or glycolic acid or gluconic acid.

11. The process of Claim 1 wherein the gelling amine catalyst is not more than 50 percent acid blocked on a molar basis.

12. A flexible foam prepared by any one of the preceeding claims.

13. A polyol composition comprising b1) from 0 to 98 percent by weight of a polyol compound having a functionality of 2 to 8 and a hydroxyl number of from 15 to 200 and

(b2) from 2 to 100 by weight of a polyol compound having a functionality of 2 to 8, a hydroxyl number of from 15 to 200 and containing at least one tertiary amine group providing autocatalytic function,

wherein the weight percent is based on the total amount of polyol composition (b)

(c) in the presence of at least one gelling amine catalyst, having a cyclic structure and being not more than 80 percent, on a molar basis, acid blocked,